Claims

1.-20. (canceled)

21. (new) A method for identifying an order of devices in a
network, wherein the network contains a number of nodes, and
wherein each of the nodes has a number of connections for
interconnecting the nodes and the devices, the method
comprising the following steps:

    a) identifying the node connected to one of the devices;

    b) ascertaining the number of connections of this node and
a predefined hierarchy of the connections;

    c) determining for this node the connection with which the
device is connected to this node;

    d) determining for this node other connections which are
connected to other nodes or devices; and

    e) establishing a relationship between devices in the
network on the basis of the connection hierarchy predefined for
the node and of the determined connections which are connected
to the devices or other nodes.

22. (new) The method according to claim 21, wherein the steps
a)- e) are executed by each of the devices.

23. (new) The method according to claim 21, wherein by step e)
another device is established as upstream neighbor and another
device is established as downstream neighbor for each of the
devices.

24. (new) The method according to claim 21, wherein each step
of the method is repeated periodically.

25. (new) The method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a device is no longer connected to the network.

26. (new) The method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a new device is connected to the network.

27. (new) The method according to claim 21, wherein the steps a)-e) of the method are repeated whenever a device is replaced by a new device.

28. (new) The method according to claim 21, wherein the relationship established with step e) is stored in the devices or nodes.

29. (new) The method according to claim 28, wherein a device which replaces another device in the network carries out the steps a-d) and interrogates its neighbor for the stored relationship.

30. (new) The method according to claim 21, wherein the steps a) and c) are performed by a discovery protocol.

31. (new) The method according to claim 21, wherein step d) is performed by the MAC addresses.

32. (new) The method according to claim 21, wherein the relationship determined in step e) also contains the IP addresses of the other devices.

33. (new) The method according to claim 21, wherein the method is executed by a computer program product.

34. (new) An apparatus for identifying an order of devices in a network, the network having a plurality of nodes, each of the nodes having a number of connections with a predefined hierarchy and the nodes and the devices being interconnectable by means of the connections, the apparatus comprising:

a mechanism for identifying the node connected to one of the devices;

a mechanism for determining other connections of the node which are connected to other nodes or devices; and

a mechanism for establishing a relationship between devices in the network, on the basis of the connection hierarchy predefined for the node and of the determined connections which are connected to devices or other nodes.

35. (new) The apparatus according to claim 34, further comprising a mechanism for storing the established hierarchy.

36. (new) A network having a plurality of nodes and devices, and at least one apparatus according to claim 34.

37. (new) The network according to claim 36, wherein the apparatus is present in each of the devices.

38. (new) The network according to claim 36, wherein the network is an automation system containing controls, operator units, drives or actuators as devices.

39. (new) The network according to claim 36, wherein the network is an Ethernet containing personal computers or peripherals as devices.

40. (new) The network according to claim 36, wherein the network is a means of rail transport containing traction vehicles and cars as devices.